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Johnson et al.

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(54) **SHAFT LOCKING DEVICE FOR BEARING ASSEMBLIES**

5,683,137 A * 11/1997 Johnson et al.
6,036,372 A * 3/2000 Okamoto

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* cited by examiner

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(57) **ABSTRACT**

A bearing assembly wherein the inner diameter of the slotted compressible annular locking collar is provided with a protrusion which extends radially inwardly, and finger extensions of the inner ring are provided with a recessed groove which extends at least partially along the collective outer annular surface of the finger extensions. When the locking collar is disposed about the finger extensions of the inner ring, the protrusion is disposed within the recessed groove to retain the locking collar on the inner ring. The inner ring finger extensions and the locking collar are relatively sized such that when they are in their free states, the inner diameter of the protrusion is slightly smaller than the outer diameter of the recessed groove, such that the collar may be snapped over the finger extensions and into proper position on the inner ring prior to installation on a shaft. The protrusion may be an integrally formed part of the locking collar or a separate resilient member. In one embodiment, the locking collar and finger extensions are formed with cooperating threads.

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Related U.S. Application Data

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(58) Field of Search 384/537, 539, 384/585, 584, 510

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,728,202 A * 3/1988 Larou

2 Claims, 3 Drawing Sheets

